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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/676,331	10/01/2003	Zhiqiang Gao	27433.04010	6499

7590 06/16/2005

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EXAMINER	
KASENGE, CHARLES R	

ART UNIT	PAPER NUMBER
2125	

DATE MAILED: 06/16/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/676,331	GAO ET AL.	
	Examiner	Art Unit	
	Charles R. Kasenge	2125	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☐ Responsive to communication(s) filed on _____.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-36* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-36* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *01 October 2003* is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

2. Claims 1-36 are rejected under 35 U.S.C. 102(a) as being anticipated by Parvez and Gao. Referring to claims 1, 19, 35, and 36, Parvez discloses a method for producing a control output, comprising: identifying an error signal (pg. 1, abstract); decomposing the error signal into a plurality of signal components, a sum of the plurality of signal components being equal to the error signal, the plurality of signal components being determined based on a plurality of orthogonal functions representing multi-resolution decomposition properties (pg. 4, 1st ¶); transforming each signal component (pg. 3, middle ¶); and summing the transformed signal components to determine a control signal (pg. 3, last ¶).

Referring to claims 2-5 and 20-23, Parvez discloses the method of claim 1, wherein the plurality of orthogonal functions include at least one function describing wavelets (pg. 2, Section 2). Parvez discloses the method of claim 1, wherein transforming includes differentiation of at least one signal component (pg. 9, point 3). Parvez discloses the method of claim 1, wherein transforming includes integration of at least one signal component (pg. 3, 3rd ¶). Parvez discloses the method of claim 1, wherein transforming includes scaling of at least one signal component (pg. 2, Section 2).

Referring to claims 6-12, Parvez discloses the method of claim 1, wherein transforming includes applying a linear function to at least one signal component (pg. 2, Section 2). Parvez discloses the method of claim 1, wherein transforming includes applying a non-linear function to at least one signal component (pg. 5, last ¶). Parvez discloses the method of claim 1, wherein the control signal is determined in real time (pg. 4, 1st ¶). Parvez discloses the method of claim 1, wherein one of the signal components is the differential of the error signal using Daubechies wavelets (pg. 4, 1st ¶). Parvez discloses the method of claim 1, wherein identifying an error signal includes receiving the error signal (abstract). Parvez discloses the method of claim 1, wherein the plurality of transformed signal components includes each of a low, intermediate and high scale component (abstract). Parvez discloses the method of claim 1, wherein the control signal *u* (pg. 2, Section 2).

Referring to claims 13-18, Parvez discloses the method of claim 12, wherein each function f(.) can be a linear or a non-linear function (pg. 2, Section 2). Parvez discloses the method of claim 12, wherein each signal component is a function of time and frequency (pg. 1, last ¶). Parvez discloses the method of claim 12, wherein the plurality of signal components includes (de/dt)Kd, and Kp (pg. 3, last ¶). Parvez discloses the method of claim 15, wherein summing the scaled signal components includes summing only (de/dt)Kd, and Kp to emulate a PD controller output (pg. 3, last ¶). Parvez discloses the method of claim 12, wherein the plurality of transformed signal components includes (de/dt)Kd, (1/s)Ki, and Kp (pg. 3, last ¶). Parvez discloses the method of claim 17, wherein summing the transformed signal components includes summing (de/dt)Kd, (1/s)Ki and Kp to emulate a PID controller output (pg. 3, last ¶).

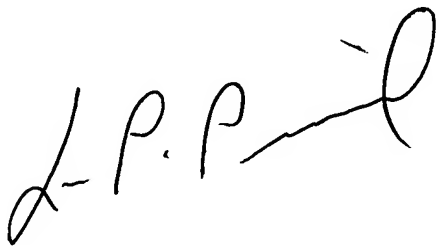
Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Charles R. Kasenge whose telephone number is 571 272-3743. The examiner can normally be reached on Monday through Friday, 8:30 - 5 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Leo Picard can be reached on 571 272-3749. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

CK
June 10, 2005



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